



## **STATE OF COLORADO**

### **CLASS SERIES DESCRIPTION**

**July 1, 2002**

#### **ACTUARY**

I1A1TX TO I1A4XX

#### **DESCRIPTION OF OCCUPATIONAL WORK**

This class series uses four professional levels in the Physical Science and Engineering Occupational Group and describes actuarial work in the state's regulation of corporate insurance entities. Actuarial work is defined as the application of the principles of actuarial science, mathematics, statistics and related fields to determine rates for insurance and quasi-insurance products or plans, and to evaluate regulated firms' financial soundness as to life, health, social and casualty insurance, annuities, and pensions. The actuary examines insurance plans, premiums, reserves and liabilities in light of guaranteed benefits and changes in the legislative requirements and the claims environment. The work in these classes ranges from the fully-operational actuary (Actuary I) who performs actuarial reviews of firms' performance to the chief of actuary services (Actuary IV) who counsels department managers and legislators on regulatory insurance matters from the actuarial viewpoint and directs actuarial matters within an agency.

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#### **ACTUARY I**

I1A1TX

#### **CONCEPT OF CLASS**

This class describes the fully-operational actuary. Positions in this level perform many types of actuarial reviews in examining financial reports, verifying reserve valuations, determining the adequacy of reserves, and rendering actuarial opinions on filings, rate changes, etc. The work involves the review and analysis of insurance policies and rates, corporate management changes, licensure applications, financial reports, and other materials filed with the agency. Positions assist higher level actuaries with reinsurance or reserve valuation calculations and provide actuarial assistance and advice to agency insurance examiners.

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### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. An example of such decisions is determining whether a formal corporate actuarial opinion is acceptable and in compliance with state regulations. This includes determining how the review operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices. For example, positions at this level evaluate the benefits and guarantees offered in a standard life insurance contract and apply the correct valuation methodology and assumptions to determine the minimum statutory reserve.

**Complexity** -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study actuarial information to determine what it means and how it fits together in order to get practical solutions in the form of actuarial reviews. An example of such is where existing actuarial review guidelines are chosen to fit new types of insurance in order to determine if they comply with existing insurance regulations. Guidelines in the form of insurance regulations exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation. An example is the collation and adaptation of casualty data from various sources to establish casualty insurance reserve factors.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of either of the following:

Securing compliance with regulatory insurance statutes, rules and regulations where the position has the authority to prescribe sanctions or penalties, or to revoke licenses. Regardless of the methods of persuasion or training used to attempt to obtain compliance or correct problems, the position can ultimately rely on legal authority to ensure action. An example of such is recommendations to bring non-complying insurance actions into compliance by persuading or convincing corporate insurance officers to change their actuarial processes to meet state requirements.

Clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories. This goes beyond what has been learned in training or repeating information that is available in another format. An example of such clarification is explaining and teaching other insurance auditors or examiners the rationale and intent of actuarial practices for consideration in their reviews.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include

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positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

## **ACTUARY II**

I1A2XX

### **CONCEPT OF CLASS**

In addition to work described by the Actuary I level, this class describes the second level of actuarial work. Positions in this class define the actuarial processes for reviews of regulated firms, assign work and standards to others, train others in the agency's work procedures and methods, and provide recommendations to supervisors and managers on others performance and training requirements. This class differs from the lower Actuary I level in the Decision Making and the Complexity factors.

### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the process level. Within limits set by the agency's available technology and resources, professional actuarial standards, and insurance program objectives and regulations established by a higher management level, choices involve determining the actuarial review process by selecting the set of operations that make up the process. The general review pattern, program, or system exists but must be individualized. When actuarial reviews are directed by higher level actuaries or managers, positions in this class choose the scope of the review to fit individual companies. This individualization requires analysis of actuarial data that is complicated and entails breaking the problem or case into parts, examining these parts in relation to actuarial principles, and reaching conclusions that result in actuarial processes. This examination requires the application of known and established actuarial theory, principles, conceptual models, professional standards, and precedents in order to determine their relationship to the problem. New actuarial processes or review objectives require approval of higher management or the agency with authority and accountability for the insurance program or regulation. For example, positions in this class decide the extent to which a given liability will be reviewed in a financial examination or whether a recommendation will be included in the formal report.

**Complexity** -- The nature of, and need for, analysis and judgment is formulative, as described here. Positions evaluate the relevance and importance of actuarial theories, concepts, and principles in order to adapt them to specific circumstances and/or combine them into a different approach or tactical plan. An example of such is where existing actuarial review guidelines must be tailored to fit new types of insurance in order to determine if they comply with existing insurance regulations. While general actuarial policy, precedent, or non-specific review practices exist, they are often inadequate or subject to continuous change so they are relevant only through approximation or analogy. An example is where a legal precedent exists in another state, but the actuarial treatment must be modified for this state's statutes and regulations. In conjunction with actuarial, statistical and insurance management theories, concepts, and principles, positions use judgment and resourcefulness in tailoring the existing actuarial review guidelines so they can be applied to particular insurance circumstances and to deal with

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emergencies. An example is the evaluation of a new type of life insurance policy and the modification of evaluation methods to determine statutory reserves.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories. This goes beyond what has been learned in training or repeating information that is available in another format. An example of such clarification is explaining and teaching other insurance auditors or examiners the rationale and intent of actuarial practices for consideration in their reviews.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

## **ACTUARY III**

I1A3XX

### **CONCEPT OF CLASS**

In addition to work described by the Actuary I and II levels, this class describes positions that function as the state's authorities on actuarial matters. In addition to evaluating actuarial opinions and adequacy of loss reserves, positions in this level examine qualifications of actuaries, new types of insurance, and reinsurance plans. Positions also oversee the administration of actuarial examinations. Positions may supervise other actuaries and provide expert advice to peers, managers, and corporate officers on actuarial matters. This class differs from the Actuary II class in all four factors.

### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the interpretive level, as described here. Within limits of the strategic master plan and allocated human and fiscal resources, choices involve determining tactical plans to achieve the actuarial objectives established by the higher management (strategic) level. This involves establishing what processes will be done, developing the budget, and developing the staffing patterns and work units in order to deploy staff. This level includes developing and changing actuarial systems and guidelines that will be applied by others statewide. By nature, this is the initial level where positions are not necessarily bound by processes or operations in their own actuarial programs as a framework for decision making and there are novel or unique situations that cause uncertainties that must be addressed at this level. Through deliberate analysis and experience with these unique situations, the actuary determines the actuarial systems, guidelines, and programs for the future. An example of such is deciding the actuarial objectives used by other agency units conducting financial examinations of insurance companies after financial accounting standards change or when new forms of insurance enter the market.

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**Complexity** -- The nature of, and need for, analysis and judgment is strategic, as described here. Positions develop actuarial guidelines to implement a program and maintain the ongoing regulatory mission of the agency. Guidelines do not exist for many situations. In directive situations, positions use judgment and resourcefulness to interpret circumstances in a variety of situations and establish actuarial guidelines that direct how an agency program will be implemented. An example is the direction to other agency units of actuarial objectives to use when conducting financial examination of insurance companies where new forms of insurance are entering the market.

### **OR**

The nature of, and need for, analysis and judgment is unprecedented, as described here. Positions originate actuarial models, concepts, and theories that are new to the professional field AND where no prototype exists in state government. At the leading edge, actuarial guidelines do not exist so judgment and resourcefulness are needed to develop them. An example is the origination of a new actuarial model for determining loss reserves of a quasi-governmental agency with differing tax and legal status.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of negotiating as an official representative of the agency in order to obtain support or cooperation where there is no formal rule or law to fall back on in requiring such action or change from the other party. Such negotiation has fiscal or programmatic impact on an agency. In reaching settlements or compromises, the position does not have a rule or regulation to enforce but is accountable for the function. An example is the negotiation between the agency and an insurance company to settle disputes on the use of new actuarial practices which are not required by the state. This could have financial impact on the agency by reducing litigation costs and reduce programmatic efforts in lessening the time or frequency of actuarial reviews.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a work leader or staff authority. The work leader is partially accountable for the work product of two or more full-time equivalent positions, including timeliness, correctness, and soundness. At least one of the subordinate positions must be in the same series or at a comparable conceptual level. Typical elements of direct control over other positions by a work leader include assigning tasks, monitoring progress and work flow, checking the product, scheduling work, and establishing work standards. The work leader provides input into supervisory decisions made at higher levels, including signing leave requests and approving work hours. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

### **OR**

The staff authority is a pacesetter who has a unique level of technical expertise in a field or profession that, as part of the assignment, is critical to the success of an agency. It is an essential component of the work assignment that has been delegated by management to the position. This authority directly influences management decisions within an agency. For example, management relies on such a position when making decisions regarding the direction that policy or a program should take in the staff authority's field of expertise. Managers and peers recognize and seek this level of technical guidance

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and direction regarding the application of a program or system within the agency or to its clients. An example of such authority is the agency authority on actuarial problems with marginal or problematic insurance companies.

## **ACTUARY IV**

I1A4XX

### **CONCEPT OF CLASS**

This class describes the highest level actuary. In addition to being the administrative head of an actuary unit, this position serves as the authority on actuarial matters for the state which involves counsel to department executives and legislators in refining insurance codes, regulations, and operations in the state. This position is also expected to serve as the state coordinator to national actuarial entities relating to insurance regulation at state levels. This class differs from the Actuary III class in the Line/Staff Authority factor due to its consultative nature to executive directors, legislators, and to chief actuaries in other states or on a national level. Positions in this class also typically supervise non-actuarial support staff in addition to agency actuaries. This class may also differ in the Complexity and Purpose of Contact factors.

### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the interpretive level, as described here. Within limits of the strategic master plan and allocated human and fiscal resources, choices involve determining tactical plans to achieve the actuarial objectives established by the higher management (strategic) level. This involves establishing what processes will be done, developing the budget, and developing the staffing patterns and work units in order to deploy staff. This level includes developing and changing actuarial systems and guidelines that will be applied by others statewide. By nature, this is the first level where positions are not bound by processes or operations in their own actuarial programs as a framework for decision making and there are novel or unique situations that cause uncertainties that must be addressed at this level. Through deliberate analysis and experience with these unique situations, the actuary determines the actuarial systems, guidelines, and programs for the future. An example of this is deciding the actuarial objectives used by other agency units conducting financial examinations of insurance companies after financial accounting standards change or when new forms of insurance enter the market.

**Complexity** -- The nature of, and need for, analysis and judgment is unprecedented, as described here. Positions originate actuarial models, concepts, and theories that are new to the professional field AND where no prototype exists in state government. At the leading edge, actuarial guidelines do not exist so judgment and resourcefulness are needed to develop them. An example of such might be the development of valuation models to support legislation on the introduction of new types of insurance and advising other states' insurance regulators on its design and applications.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of either of the following:

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Negotiating as an official representative of one party in order to obtain support or cooperation where there is no formal rule or law to fall back on in requiring such action or change from the other party. Such negotiation has fiscal or programmatic impact on an agency. In reaching settlements or compromises, the position does not have a rule or regulation to enforce but is accountable for the function. An example is the negotiation with insurance representatives on language to be used in statutory changes and proposals.

Defending, arguing, or justifying an agency's position in formal hearings or court where the position is an official representative of one party. An example is the defense of the agency's actuarial position before legislative committees regarding pending legislation.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a unit supervisor or senior authority. The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact the pay, status, and tenure of three or more full-time equivalent positions. At least one of the subordinate positions must be in this series or at a comparable conceptual level. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

**OR**

The senior authority is a pacesetter who has a unique level of technical expertise in a field or profession that, as part of the assignment, is critical to the success of an agency. It is an essential component of the work assignment that has been delegated by management to the position. This authority directly influences management decisions beyond the agency. Managers and peers seek this level of technical guidance and direction as the designer of a statewide system or in a subject area for other areas of state government. Managers and peers, both internally and externally to the agency, rely on this pacesetter when making decisions regarding the direction that policy, programs, and systems should take in the pacesetter's field of expertise. An example of such authority is a state wide authority on annuity reserves from the actuarial perspective.

**ENTRANCE REQUIREMENTS**

Minimum entry requirements and general competencies for classes in this series are contained in the State of Colorado Department of Personnel & Administration web site.

For purposes of the Americans with Disabilities Act, the essential functions of specific positions are identified in the position description questionnaires and job analyses.

**CLASS SERIES HISTORY**

Effective 7/1/02 (DLF). PSE System Maintenance Study. No changes. Published as proposed 5/15/02.

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Effective 9/1/93 (DLF). Job Evaluation System Revision project. Published as proposed 4/9/93.

Revised 7/1/87. Title change for class title (A1333).

Revised 7/1/85. Changed class codes, education and experience for all classes. (A1333 to A1337).

Revised 7/1/77. Changed nature of work, distinguishing factors, examples of work, and experience substitution for all classes. (A1333 to A1337).

Created 1/1/75.

**SUMMARY OF FACTOR RATINGS**

<b>Class Level</b>	<b>Decision Making</b>	<b>Complexity</b>	<b>Purpose of Contact</b>	<b>Line/Staff Authority</b>
Actuary I	Operational	Patterned	Secure or Clarify	Indiv. Contributor
Actuary II	Process	Formulative	Clarify	Indiv. Contributor
Actuary III	Interpretive	Strategic or Unprecedented	Negotiate	Work Leader or Staff Authority
Actuary IV	Interpretive	Unprecedented	Negotiate or Defend	Unit Supervisor or Senior Authority

ISSUING AUTHORITY: Colorado Department of Personnel & Administration